

600176 3/4"

Work Order ID 141362

141362

Page 1

Wednesday, February 03, 2016 4:45:50 PM

Item ID: D5101-3

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Insert

Start Date: 2/3/2016

Start Qty: 24.00

24

Cust Item ID:

Required Date: 2/3/2016

Req'd Qty: 24.00

24

Customer:

Reference:

Approvals:

Process Plan: MLJ

Date: FEB 04 2016

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run Start ***NR1***

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID

Tool #

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D5101

B

100

0.00

100

Hardinge CNC LATHE SMALL

Doosan

Memo

0.02

Doosan Lathe

TURN AS PER FOLIO FB 357

FOLIO REV: AA

DWG REV: B

DEBURR

110

QC2- Inspect parts off machine FAI/FAIB

0.00

110

QC

Memo

0.00

Quality Control

DAS

45

9-89

2016-4-3

DAS

45

9-89

2016-4-3

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mis-labeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Work Order ID 141362

Wednesday, February 03, 2016 4:45:50 PM

141362

Page 3

Item ID: D5101-3 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Insert
Start Date: 2/3/2016 Start Qty: 24.00 ***24*** Cust Item ID:
Required Date: 2/3/2016 Req'd Qty: 24.00 ***24*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>ST151</u>	0.00							
160						<u>49</u>	<u>APR 05 2016</u>		<u>Das</u>
Packaging	Memo	0.00							<u>8-89</u>
Packaging									
170	QC21- Final Inspection - Work Order Release	0.00							
170						<u>MLJ</u>	<u>APR 06 2016</u>		
QC	Memo	0.04							
Quality Control									

MLJ APR 06 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition			
				Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
OTHER : ☐					

Picklist Print

Wednesday, February 03, 2016 4:45:50 PM

Page 1

Work Order ID: 141362

141362

Parent Item: D5101-3

D5101-3

Parent Item Name: Insert

Start Date: 2/3/2016

Required Date: 2/3/2016

Start Qty: 24.00

Required Qty: 24.00

Comments: IPP REV:A NEW ISSUE 14-12-18 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M6061T6R0.750		Purchased		No			f	29.7145		1.061053			

M6061T6R0 750

6061-T6 Round Bar .750"

<u>Location</u>	<u>Loc Qty</u>	<u>Loc Code</u>
MAT012	29.7145	
m131999	1.2705	
m133560	2.069	
m134067	2.375	
<u>m134158</u>	24	

3,089 ^{ft} **DAS**
45
 9-89 2016-4-3

DQA: _____ Date: _____



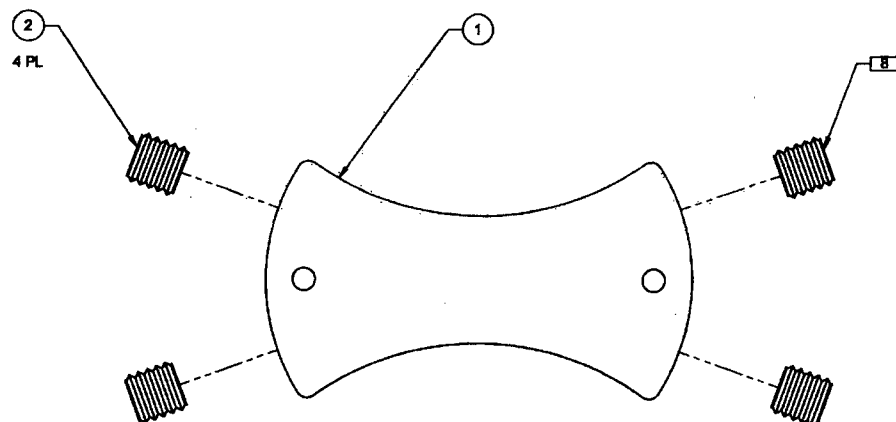
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date : _____	Step #: _____	QTY Effective : _____		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		Completed By	
				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY			
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐
OTHER : ☐					

ITEM	QTY	P/N	DESCRIPTION
	X	D5101-041	CROSSBOLT SPACER ASSY
1	1	D5101-1	CROSSBOLT SPACER
2	4	MS21209F7-10	HELICOIL, LOCKING



D5101-041 CROSSBOLT SPACER ASSY

STOCK COPY
 NO. 141362 MJS
 160204

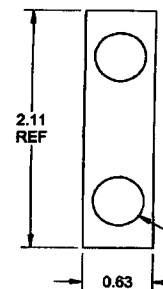
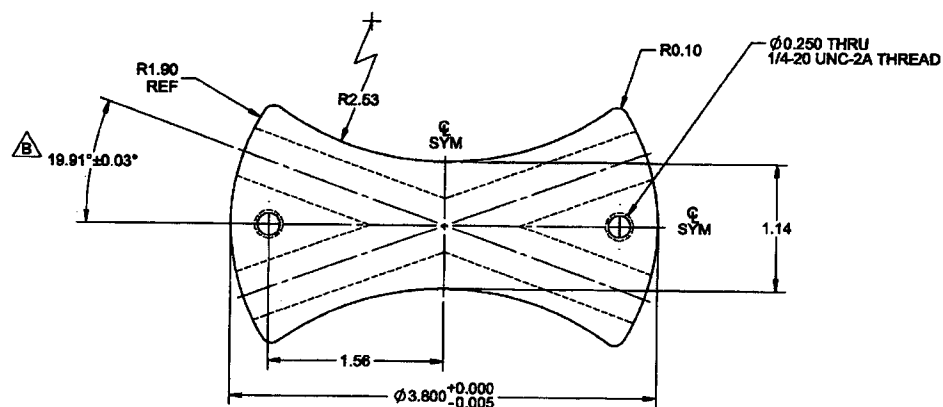
NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.14 lbs
- 8) INSTALL MS21209F7-10 HELICOIL ONE FULL REVOLUTION BELOW SURFACE

RELEASED
 2015-12-09
 ECN 15-651

B	REVISE NOTE 6 (SH 1, 3 & 4) & NOTE 8 (SH 1), REVISED HELICOIL ANGLE TO 18.91° WAS 18°. ADD D5101-7-047 (SH 548), REMOVE 0.088 HOLES FROM -1, MS21209F7-10 WAS MS21209F7-15.	DB	15.10.15
A	NEW ISSUE	AK	14.08.07
REV.	DESCRIPTION	BY	DATE
DESIGN	AK	DART AEROSPACE USA, INC. EUGENE, OR	
DRAWN	AP		
CHECKED	DB	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5101	SHEET 1 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	CROSSBOLT SPACER	NTS
DATE	15.10.15	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR DISSEMINATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

APPROVED



Ø 0.453 THRU, 2 PL
TAP FOR HELICOIL INSERT
7/16-20 UNF 0.75 DEEP
4 PL

D5101-1 CROSSBOLT SPACER

NOTES:

- 1) MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL
REF DART SPEC M-DELRIN-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.12 lbs

RELEASED
2015-12-09

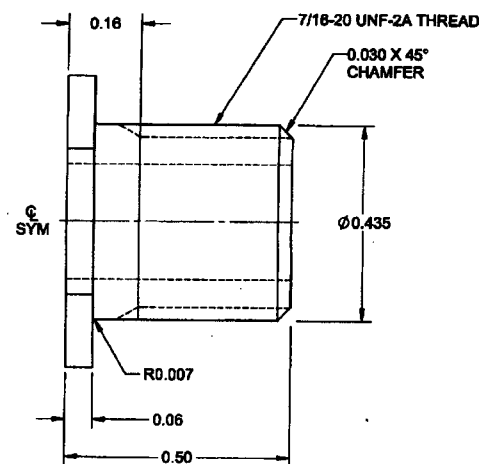
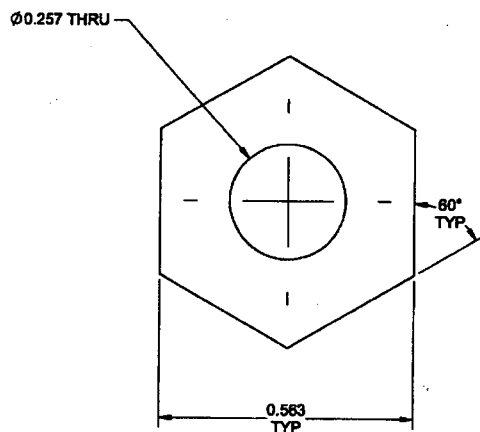
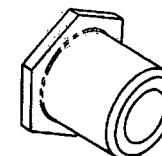
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DESIGN	AK
DRAWN	AP
CHECKED	DB
MFG. APPR.	JLM
APPROVED	WM
DE APPR.	DS
DATE	15.10.15

DART AEROSPACE USA, INC.
EUGENE, OR

DRAWING NO. **D5101** REV. B
SHEET 2 OF 6
TITLE **CROSSBOLT SPACER** SCALE NTS

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D5101-3 INSERT

NOTES:

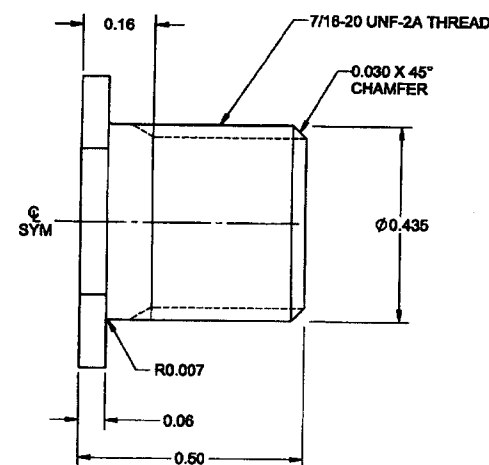
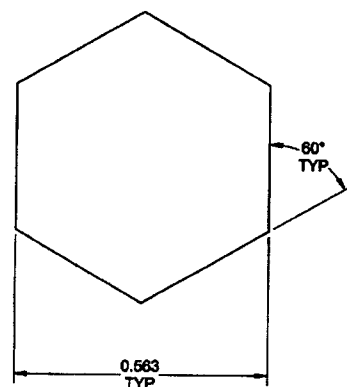
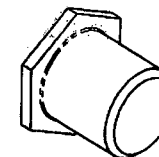
- 1) MATERIAL: 6061-T6/T651/T6510/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8
(OR AMS 4160) OR ASTM B211 OR ASTM B221
REF DART SPEC M3061T6R
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.005 lbs



RELEASED
2015-12-09

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DESIGN	AK	DART AEROSPACE USA, INC.	
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CHECKED	DB	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5101	SHEET 3 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	CROSSBOLT SPACER	NTS
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D5101-5 INSERT

NOTES:

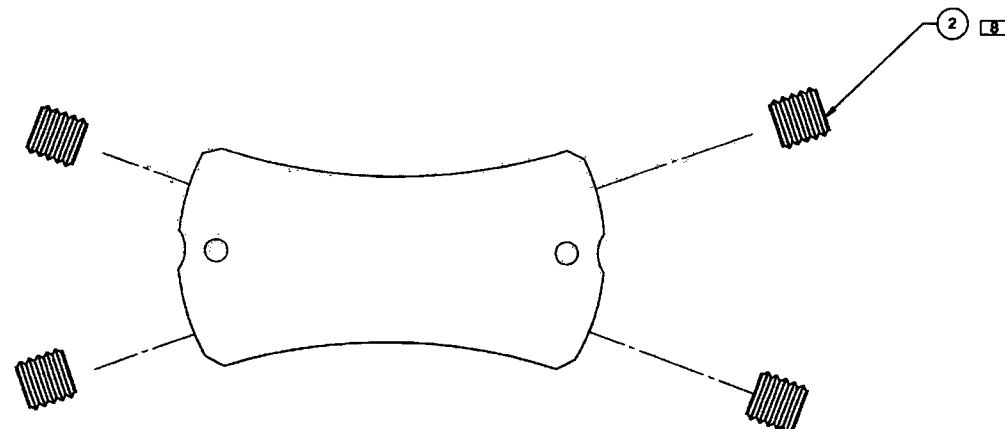
- 1) MATERIAL: 6061-T8/T651/T6511/T62 ALUMINUM ROUND BAR
PER QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116) OR QQ-A-200/8 OR AMS-QQ-A-200/8
(OR AMS 4160) OR ASTM B211 OR ASTM B221
REF DART SPEC M8061T6R
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.008 lbs

RELEASED
2015-12-09

APPROVED

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CHECKED	DB	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5101	SHEET 4 OF 8
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ITEM	QTY	P/N	DESCRIPTION
	X	D5101-047	CROSSBOLT SPACER ASSY
1	1	D5101-7	CROSSBOLT SPACER
2	4	MS21209F7-10	HELICOIL, LOCKING



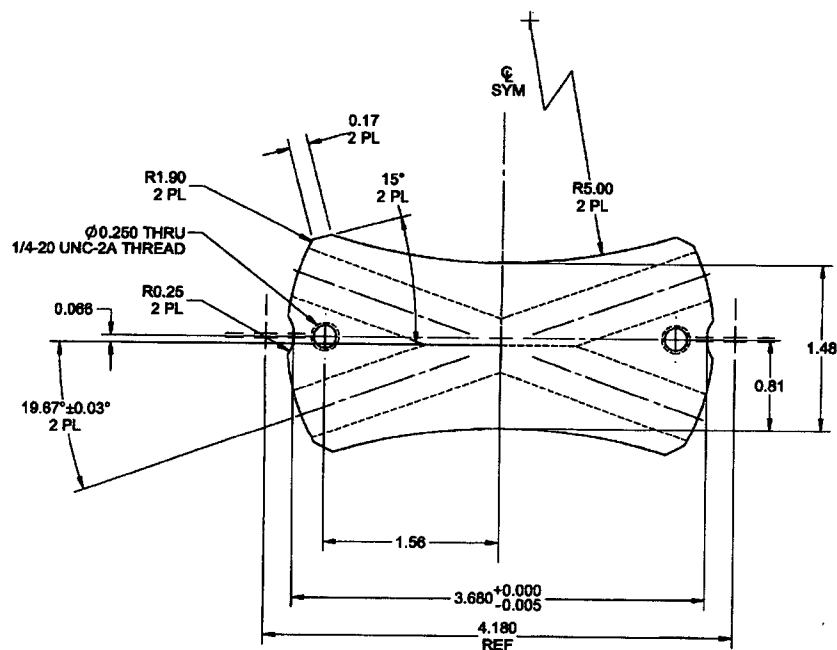
D5101-047 CROSSBOLT SPACER ASSY

NOTES:

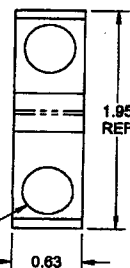
- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.7
- 7) WEIGHT: 0.16 lbs
- 8) INSTALL MS21209F7-10 HELICOIL ONE FULL REVOLUTION BELOW ADJACENT SURFACE

RELEASE
2015-12-09
APPROVED

DESIGN	AK	DART AEROSPACE USA, INC.	
DRAWN	AP	EUGENE, OR	
CHECKED	DB	DRAWING NO.	REV. B
MFG. APPR.	JLM	D5101	SHEET 5 OF 6
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	CROSSBOLT SPACER	NTS
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Ø0.453 THRU, 2 PL
TAP FOR HELICOIL INSERT
7/16-20 UNF, 0.75 DEEP
4 PL



D5101-7 CROSSBOLT SPACER

NOTES:

- 1) MATERIAL: DELRIN II 150E OR ACETRON GP ACETAL
REF DART SPEC M-DELRIN-B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.13 lbs
- 8) REFER TO CAD FILE D5101-7B.STEP FOR UNDIMENSIONED DETAILS

RELEASED
2015-12-09

APPROVED

DESIGN	AK	DART AEROSPACE USA, INC.	
DRAWN	AP	EUGENE, OR	
CHECKED	DB	DRAWING NO.	REV.
MFG. APPR.	JLM	D5101	SHEET 6 OF 8
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	CROSSBOLT SPACER	NTS
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